MINISTRY OF HEALTH

BUILDINGS FOR GENERAL MEDICAL PRACTICE

PREPARED BY THE GENERAL PRACTICE ADVISORY SERVICE LIMITED

LONDON HER MAJESTY'S STATIONERY OFFICE 1967

FOREWORD

Well designed premises are important for the good organisation and conduct of general medical practice and many general practitioners are looking afresh at their practice premise requirements in the light of the new developments affecting their work and the way they organise it.

I commend this book to them. It is a distillation of the detailed studies and experience of the General Practice Advisory Service which has been giving much useful advice to family doctors in these matters.

I am glad that my Ministry was able to help the preparation of the book with a research grant, but the choice of project and the conclusions are those of the General Practice Advisory Service and the credit is theirs.

I am sure that family doctors and architects will find the guidance in this book most helpful.

KENNETH ROBINSON

September 1967

Acknowledgements

The General Practice Advisory Service wishes to acknowledge the great financial help it has received from the Nuffield Provincial Hospitals Trust, the Ministry of Health and the British Medical Association. We also wish to acknowledge the help we have received from the Royal College of General Practitioners and the Medical Practitioners' Union Thanks are also due to the General Practice Research Unit, Guy's Hospital Medical School, and to the many doctors and architects who gave so willingly of their time and experience to further the studies upon which this publication is based.

THE NATURE OF GENERAL PRACTICE

G.S. Adams TD, MB, ChB

Within the National Health Service the general practitioner provides primary medical care to the community. The patient has direct and unqualified access to the general practitioner. Complete freedom of access by the patient to a physician is the most important single factor which, in the end, determines the physician's work. There is no pre-determined limit to the range of clinical and social pathology with which he may be confronted.

General practice is primarily the area of undifferentiated medicine; it is the area where society and medicine meet. The challenges to the doctor in this situation are concerned with the earliest possible diagnosis of the beginning of organic or psychological illness and with translating and applying existing medical knowledge at this early stage.

The general practitioner requires an understanding of the social sciences too, and to have the means to employ the various social agencies that are available. To know what is available and to know when and how to use it is essential.

Because he is freely available to his patients the general practitioner deals not so much with episodes of illness as with continuing medical care. He is also exposed to the wide range of social and personal problems which his patients bring to him.

The spectrum of disease seen in practice is undergoing continuous change. Environment and social changes play their part as do new forms of therapy, new drugs, new techniques and sometimes changes of fashion. Treatment undergoes similar changes and the pendulum may swing, sometimes making the care of the patient the responsibility of the consultant and sometimes that of the general practitioner.

We may say, therefore, that the personal physician will be required to:

fulfill his role of diagnosing and treating traditional diseases;

have a special regard to early diagnosis of diseases;

be particularly concerned with prevention of diseases;

be able to bring to his patient's aid all the medical and social skills now available.

Over the past twenty years the emphasis in community medicine has moved away from treating established disease to its prevention. The uniqueness of general practice in Britain is that each general practitioner has a defined population. Consequently, he should be able to put into practice more effectively than any other type of doctor the modern philosophy of preventive medicine, and co-operation between the general practitioner and the local authority will achieve this aim more effectively. This is where the content of general practice ought to be so distinctive.

This change is still in its infancy but has already gathered considerable momentum. The local authority services were already in this field with vaccinations and immunisations. Welfare clinics play their part in screening mothers and children for aberrations of health. With the advent of the National Health Service the whole nation was placed in the medical care of the general practitioner who has been slowly exploring this field. Many doctors now hold ante-natal and well-baby clinics in their practices. Immunisation and vaccination have become accepted procedures in general practice. But is this enough? If we are to prevent disease we must know about it. Last (1963) and Logan (1964) have shown that our present method of detection of disease in the community, relying on patient demand, is faulty. For every case of microcytic anaemia seeking treatment there are probably nine who do not, and for every twelve cases of diabetes known to the doctor there would be a further nine unknown.

To discover these and many other illnesses we need to provide additional screening procedures, remembering that it is essential first to establish a range of normality and, secondly, to be able to assess the significance of variations in the pattern and, thirdly, to be in a position to apply effective treatment to patients who are thus detected. Experiments are being carried out in this field but all of these are based on patient demand influenced by publicity. If we are serious about this approach we should undertake screening in general practice using the age/sex register as our guide and not relying on self selection by patients. Ideally, the age/sex register should be maintained on an area basis, probably on a computer, but the work delegated to practices. This programme would appear to place a heavy burden on the general practitioner but experiments have shown that much of the screening can be performed by personnel especially trained for the purpose. Only those patients who are found to have a variation from the normal would need to see the doctor for further assessment. It is important not to confuse this type of screening with a full health check by the doctor, although the difference is only one of degree. In screening of the type described we should ration our commitments to those abnormalities for which there is effective therapy.

A doctor working in the community therefore has the problems of carrying out his traditional work of curing disease, of uncovering the iceberg of overt and incipient disease and ensuring that the many advantages of social care are available to his patients. As has been shown by our consultant colleagues, he cannot do this alone. He needs the support of clinical and administrative personnel and medical equipment to enable him to carry out these functions. It is very expensive of personnel and of equipment if they are not grouped to serve the needs of the community. It might be said that they could be grouped at the hospital and all curative and preventive medicine could be practised there but the large number of patients who would be attending daily has precluded this so that the present distribution of services to the community has evolved. This should be under continuous review.

Many factors influence the size of the group in the community, including the movement of the population, the locality and the personalities of the doctors involved. There are successful groups of three doctors and also of eight doctors. No limit should be arbitrarily set but natural development should be allowed to take place.

Experiments have also been taking place in order to establish the staff required for these units. This can be broken down into; nursing, social, obstetric, medical instrumentalists and pathological technicians on the clinical side and, on the administrative side, receptionists, telephonists, filing clerks and shorthand typists. The larger units require an administrator to take overall charge of the premises and organization.

Some general practitioners have employed a surgery nurse for many years but, traditionally, domiciliary care has been provided by local authority home or district nurses. This has worked reasonably well in spite of the difficulty of establishing contact between the doctor and the home nurse. An experiment using the same nurse for domiciliary visiting and surgery work has shown that this greatly improves the service given to the patient and, incidentally, enables the nurse to cover a greater number of population and to provide a greater range of services. The Ministry of Health have recently sponsored, among others, an experiment to explore the type and range of work a nurse attached to a practice could perform. This has revealed a wider concept of her work, including not only secondary visiting but primary visiting as well.

An investigation of the duties performed by an industrial nurse has shown that nurses can accept a much wider range of responsibility than they have been allowed when working on the 'district'.

Social workers are employed by the local authority. They are sometimes attached to practices and fall into two broad groups: caseworkers who investigate and support patients having social problems; and psychiatric social workers who investigate and support patients with emotional and psychiatric problems. An attachment scheme of the latter was found of inestimable value to the general practitioner, saving many referrals to consultants and admissions to hospital.

Health visitors, who are employed by the local authority and may be attached to practices, are nurses with a training in social work and health education. Their value lies in screening the young for aberrations of physical development and the 'not so young' for early onset of degenerative processes, and in health and social education, in its broadest sense, at all ages.

Many doctors see their obstetric patients at special times outside the normal consulting sessions. It is a great help if the midwife is able to attend these clinics. It is even more valuable when the midwife attending the clinic is the same one who attends the mother in labour.

The general practitioner in the past has been in the habit of doing most of the technical jobs himself. He has been his own nurse and his own laboratory technician. This was satisfactory when he was isolated and science had not advanced to the degree that it has reached at the present time. However, in the modern concept of general practice, he should have a nurse and a technician to support him in his work. A nurse would be a surgery nurse carrying out her normal nursing duties of dressings, etc. and should also act as his technician taking all pathological specimens and seeing that they reach the local laboratory. She should act as his medical instrumentalist, taking ECG's, doing audiometry, haemoglobins, etc. on his behalf. It is far better if the same nurse is able to visit patients on the district; in fact, she may be looked upon as a Ward Sister reporting on any abnormal occurrences in the progress of the patient.

With the upsurge of social work, whether normal or psychiatric, there is a place for the general practitioner to be supported by workers trained in these disciplines. Here again they should be integrated with his practice for, in the event of telephoning and making contact with a social worker to ask her to visit a patient, she may or may not ring back to tell the doctor she has done so. There is no easy interchange of ideas brought about by face to face discussion which is so essential in this type of work. The fragmentation of work which has occurred in the social field is already creating considerable difficulties and it is doubtful whether it is achieving its full potential or is likely to under this procedure

As the general practitioner enters the field of preventive medicine to a greater degree so he finds he can hold special clinics for certain and well-defined objectives. Largely these clinics are run by well-trained staff and require his attention only when some abnormality has been detected. This procedure is likely to gather way under the influence of the stream of scientific advances which are taking place at the present time.

Visiting patients in their homes has been a traditional part of general practice. This has continued over the years even though the patients are not housebound. Some doctors have been studying this problem and have found that, if they provide transport to bring these patients to the surgery, they save both the time of the patients, who have to stay at home until the doctor calls, and of the doctor, who spends so much time driving between visits.

A receptionist, when employed, receives patients on the doctors' behalf so she must have a pleasing personality but, at the same time, be efficient. She also files the patients' records and answers the telephone. In the larger practices each of these jobs will be handled by the reception staff collectively but, during busy periods, each girl must take on one job and do it exclusively. The shorthand typist will usually be able to do the secretarial work for all the doctors. This will be greatly helped if dictation machines are used instead of dictating directly to the typist.

In the last few years there has been a considerable increase in the number of practices using appointment systems and this is gathering way rapidly each year. The Unit of Biometry, University of Oxford, showed in their study of appointment systems in general practice that patients' average waiting time in doctors' surgeries was halved. It was also found that, while appointment systems did not alter the number of consultations or visits, these were spread more evenly throughout the week making the work less arduous. Practices without appointment systems suffer from sharp peaks and falls in demand. It was also found that, on average, the number of appointments was ten in an hour and that most patients were present in the surgery within five minutes of their appointment time. The study also substantiated the theory that an allowance of five seats per clinical room was sufficient, giving roughly half an hour's seating available for each clinical room.

Appointment systems are also better for the receptionists and other staff. Their work is spread more evenly throughout the day and the week, as it is not accompanied by the sharp peaks and falls that are present with non-appointment systems.

An appointment system has a substantial effect on the actual design of the building. There is a considerable reduction of space needed for waiting areas. More important, it facilitates the use of the consulting rooms at different hours during the day, thereby making it possible to use these rooms more effectively. As the number of doctors in a practice increases, many prefer to retain the same number of consulting rooms which they use more fully throughout the day. The doctors consult at different times of the day in a way which would be practically impossible without an appointment system.

In the treatment of illness the doctor follows a pattern of interviewing his patient, i.e. consulting, examining, making any other investigations that are required, making a diagnosis and, if necessary, treating his patient. Each of these activities can be carried out in the same room but it is now considered by many to be more efficient if they take place in separate spaces, i.e. a consulting room from which undressed examination procedure and treatment is eliminated. Therefore, the doctor needs to provide himself with a consulting or interviewing room, examination room and a treatment room. The number of examination spaces required is discussed later on in the Design Guide and, similarly, the variety of treatments and investigations that can be carried out in the treatment area are discussed.

A social worker or pyschiatric social worker on the other hand interviews and prescribes therapy in the light of discussion with the patient. They do not carry out a physical examination or treatment. Therefore, they only require the use of an interviewing room of reasonable size for their work. Personnel seconded to the practice from the local authority maintain specific local authority records but these should normally be kept in the main office; they do not need to be kept in separate rooms scattered throughout the building. Their space requirements are more fully discussed later but one point to remember is that, if group therapy is taking place at the same time as normal consulting appointments, the same space cannot be used for both waiting and group activities. The individual will be disturbed by the group activities so that it is necessary either to stagger the hours at which they are held or to provide separate spaces so that group activities can be separated from waiting patients. A further consideration with regard to special clinics is that many of them can be on an appointment system so that only a small waiting area will be required. If a series of investigations are being carried out, as in multiple screening techniques, a demand will be created for increased examination space. For this purpose a series of small rooms, such as examination rooms, are an advantage.

The architect will require the doctor to give him a brief. He will expect this to be given in considerable detail, based upon a close study of the doctor's own activities and those of the staff, giving thought to changes that may occur in medicine, particularly with reference to general practice and the effect these will have on planning of the medical services that he wishes to give to the community. Not until the doctor has done this, giving paramount consideration to the use of an appointment system, the scope and range of work to be undertaken by the practice and the staff and the provision of special clinics, can he decide on his new operational policies and prepare the brief for his new practice premises

DESIGN GUIDE

Brian Brookes Dipl Arch, ARIBA

M.V. Smith MB, BS, DPH, DObst RCOG

This Design Guide is presented in two parts, the first of which itemises the general decisions that the doctors have to take about their organization and methods of work (paragraphs 1 to 29) before either an outline brief can be given to the architect or the architect can reconcile the doctors' requirements with the limits imposed by finance or the site (paragraphs 30 to 43). This section covers, therefore, the major considerations of briefing and represents the Inception and Feasibility Stages of the RIBA Plan of Work by developing general briefing decision in detail to the stage at which a schedule of accommodation can be derived.

The second part (paragraphs 45 to 90) deals with typical detailed briefing and design factors that have to be taken into account when deciding upon the schedule of accommodation. By presenting information in the form of activity data, the doctors and their architect should be able to assemble a schedule of accommodation and select detailed requirements to suit their own particular practice circumstances which room 'type' plans could not reflect.

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DESIGN GUIDE

PART 1

The need to build

The need to erect new or to convert existing buildings to serve as general medical practice premises may arise from a variety of reasons.

1. The simplest causes are those affecting an existing practice which, by increasing the number of patients served ('list sizes' or 'patients at risk'), increasing the number of doctors employed, or increasing the range of medical services available to its patients by the employment or 'attachment' of ancillary medical staff, make conversion of or extension to an existing surgery building necessary and may require also organizational changes to be made (see paragraphs 3 to 11).

2. More common and more complicated causes are those that necessitate or give the opportunity for complete changes in the organizational character of practice (see paragraphs 12 to 29): for instance, the creation of group practice centralising the facilities of existing practices to serve large numbers of patients and extending the range of medical services by the employment of ancillary help; the creation of entirely new practices to serve the new population of expanded or new towns; or even the involuntary movement of existing practice premises caused by the expiry of a lease.

The outline brief

3. When the need to build is the result of simple increase in the numbers of the patients or staff in an existing practice, the outline brief may be directly deduced. However, it is important that, even in these obvious cases, the doctors investigate the practicability of making changes in established routines to deal with the changed circumstances so that improved use of the existing premises might limit or eliminate altogether the need for new building works, as in the following instances.

4. An increase in the list size will demand greater space for record storage unless more compact filing storage systems can be introduced (see paragraphs 85 to 87) or unless a reduction can be made in the content of existing record envelopes. More seats for waiting patients will be required in direct proportion to the increase in list size if the practice does not run an appointment system (see paragraph 73). However, as the number of seats in the waiting room of a practice that does have an appointment system depends only upon the number of medical staff working at the same time (see paragraph 72) and not upon the list size, any case for increasing the provision for waiting patients must be weighed against the practicability of introducing an appointment system. Where any increase in the number of waiting patients is unavoidable, a consequent increase in car-parking facilities etc, may be necessary.

5. An increase in the number of doctors (usually to cope with an increase in the list size) will normally result in a demand for extra consulting facilities. However, more consulting rooms may not be necessary if the doctors can share the existing rooms on a 'shift' basis by staggering consulting hours with the aid of an appointment system (see paragraph 28).

If the adoption of such methods is impossible, more seats for waiting patients will be required in proportion to either the increase in list size (see paragraph 4) or the increase in the number of consulting rooms where an appointment system is used.

Where an increase in the number of consulting rooms is necessary, a consequent increase in staff facilities may follow (Offices, Shops and Railway Premises Act, 1963).

6. An increase in the range of medical services by the employment or attachment of ancillary medical staff (see also paragraph 16) may demand extra facilities

7. The delegation of routine treatment and special diagnostic techniques to a nurse (see also paragraphs 20, 79 to 83):

The centralisation of these duties into a 'treatment' room will be necessary. This will also tend to centralise the facilities for the storage and sterilisation of all medical supplies for the whole practice. If the number of existing consulting rooms can be reduced, the conversion of a superfluous room may be all that is necessary. If an extra room is required, more seats for waiting patients should be provided if an appointment system is operated as the nurse is likely to work independently and not simply 'on demand' by the doctors

8. The 'attachment' of health visitors by the local authority (see paragraph 21): An additional room for office and casework may be required when the attachment of a health visitor is full-time, unless the shared use of consulting rooms is introduced. When, however, the attachment is on a part-time basis, for instance, restricted to attendance at 'well baby' clinic sessions and periodic meetings with the doctors, no extra provision will normally be necessary.

9. The 'attachment' of district midwives by the local authority (see paragraph 22): Normally no extra provision will be necessary as the presence of midwives at ante-natal clinic sessions would only require that existing rooms be used in slightly different ways.

10. The full-time 'attachment' of medical or psychiatric social workers is at present restricted to the extremely large or experimental practices. However, where attachment is proposed, their demands for building may be similar to those of health visitors (see paragraph 23).

11. When an increase in the range of medical services is the result of the general practitioners' running preventive clinic sessions, no extra accommodation will normally be necessary.

12. In contrast to the previous instances, where simple changes in practice circumstances may allow the direct formulation of the brief, material changes in the character of practice may suggest that a method of arriving at an outline brief from basic principles is preferable. In these more complex cases an analysis of the population that is to be served, the demand for medical services that can be visibly satisfied by the practice, and the staff and organisation necessary to provide such services, will give both the doctors and the architect the opportunity to consider whether or not new organizational methods are justifiable in order to reach an economic building solution.

NB: In the following guide (paragraphs 13 to 34) a continuing example is used to illustrate only the method of calculating an outline brief from potential demand. As practice circumstances, levels of demand, and geographic conditions vary so widely, it is vital that the doctors substitute their own practice statistics and that none of the figures used in these examples be interpreted as generally applicable.

It is also important to note that, wherever possible, account should be taken of future needs thereby lessening the risk of having to enlarge the premises at a later date.

13. The potential list size of the practice should be established, taking into account any predictable increase and any long-term plans made for the area by the Executive Council or other medical authority.

The formation of a group practice may mean only that the predictable list size can be based upon the sum of the lists of the constituent practices. In new developments, however, the potential list size may be dictated by the geographical limits imposed by natural barriers, the ease of access by walking or infirm patients, public transport systems, etc, all of which will also affect the location of the practice building.

For example: if the limiting factor in a new suburban practice is judged to be the distance that a woman with a pram can be expected to walk to the surgery, possibly ¾ mile, the maximum catchment area of that practice would be approximately 1,100 acres. If the overall residential density of that area is 30 persons per acre, the potential list size is 33,000 patients. Similarly, of course, if the residential density is higher, or the limiting factor judged not to be 'pram-pushing distance', the potential list size could be correspondingly greater (paragraph 53).

14. The range of general medical services that a group can offer its patients will depend largely upon the list size. This is because at certain sizes of population the local authority may find it practicable to 'attach' some of its medical workers to a practice or other medical authorities may be able to base their specialised services upon the general practitioner.

15. The maximum demand for general medical services created by the potential population should be worked out by the doctors' considering the existing local workload together with any further demands created by the extension of the range of services, preventive medicine and the influence of longterm planning by other medical authorities.

For example: the expected average demand for all the medical services proposed might be 6.0 consultations per patient at risk per annum. If 4.5 of these took place in the surgery and 1.5 in the patient's home, the annual load on the practice building would be 4,500 consultations per annum for each 1,000 patients at risk. To use this information to establish an architectural brief, account would have to be taken of seasonal variation and, in this example, the peak seasonal demand, made during February-March, will be assumed to be 480 surgery consultations per month per 1,000 patients at risk.

16. The number of sessions required to cope with this maximum demand can be calculated by the doctors' considering the average length of each consultation (see also paragraph 72) and the optimum efficient length of one session.

For example: if the doctors are already dealing with their patients at a rate of ten an hour and if they do not wish to work for more than two hours at a time, six sessions a week would be required to deal with the future maximum load of 480 consultations a month.

17. The type of sessions required will depend upon the level of demand for any particular type of service and the doctors will have to decide on this basis whether or not it would be practicable to separate 'general' consultations from the specific needs of, for instance, ante-natal, child welfare and preventive or 'screening' procedures.

18. The number of staff required to run each type of session must be assessed by the doctors' taking into account the total complement of staff available.

19. The number of doctors required to serve the potential list size can be assessed on the basis of either the local average list size or the maximum allowable NHS list size of 3,500 patients per doctor. In new practices, however, an alternative method of calculating the number of doctors might be to compare an optimum workload with the expected demand (see also Stevenson, J. S. K., Brit. Med. Jnl. 1966, 2, 616-618).

For example: if each 1,000 patients at risk creates a total annual demand for 6,000 consultations (surgery attendances plus home visits) and if the optimum workload per doctor in that area is estimated at 14,000 annual consultations, each doctor could cope with 2,300 patients at risk.

20. The number of nurses required in a practice will depend largely upon the nature and content of the work the doctors delegate to them and upon their availability. The estimated national availability of 'home nurses' in 1974 is one to each 5,250 patients at risk.*

21. The number of health visitors nationally available in 1974 is estimated at one to each 6,200 patients at risk.*

22. The number of 'attached' midwives needed by a practice will depend upon local birth rates and the proportion of births taking place in hospital. Their availability in 1974 is estimated at one to each 7,700 patients at risk.*

23. The number of social workers employed by local authorities as part of their domiciliary service is expected to be, in 1974, one to each 11,000 patients at risk.*

24. The number of administrative staff needed by a practice will depend upon the organizational policies and methods used by the practice. It will be important however, to estimate the maximum number required to meet the peak demands of the potential population, for example Monday mornings, as upon this figure will depend the size of the office, number of WCs, staff car-parking facilities, etc. As a very approximate guide, therefore, at least one whole-time administrative staff member should be allowed for on the basis of each 5,000 patients at risk.

25. The number of consulting rooms required in a practice can be established either by the provision of one room to each doctor, which is the traditional scale of provision, or by considering the number of consulting rooms required to satisfy the peak seasonal demand for medical services. This can give a dramatically different result from the traditional method. As both the total size of the practice building (see paragraph 31) and the number of car-parking spaces required (see paragraph 34) depend upon the number of consulting rooms provided, it is essential that this number be carefully calculated as it will greatly affect the economic feasibility of the project and the size of site required.

26. Traditionally the general practitioner has had to organize his work to satisfy the demands made upon him at times which were dictated by his patients. This inevitably led to the almost universal habits of morning and evening 'surgery hours' and, because all the doctors had to work at the same time, to personal consulting rooms which were consequently idle for half the normal working day.

27. Gradually, however, this traditional pattern is being altered by the adoption of appointment systems which allow the doctor to plan his working day by regulating the times at which he sees his patients. This has a profound effect upon the way in which the surgery building is designed (see Part 2) but does not greatly affect the number of consulting rooms required unless the doctors stagger their 'surgery hours'.

28. When a practice can use its appointment system to vary the hours of work, it is possible to stagger consulting hours so that one doctor is using a consulting room, whilst another is, for instance, visiting his patients. In this way one consulting room can be shared on a shift basis and thus the number of rooms required and the facilities, such as waiting rooms, car parks etc, that depend upon that number can be reduced.

For example: the number of weekly sessions needed to satisfy the peak seasonal demand of the potential list size having been assessed, the doctors can consider the distribution of these sessions in a week's timetable.

(a) If six sessions a week are required for each 1,000 patients at risk, (see paragraph 16) and if the traditional surgery hours, with or without an appointment system, are to be worked, one consulting room can accommodate only the ten sessions in a five-day week required at peak demand by 1,670 patients at risk.

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*The Development of Community Care. HMSO 1964

(b) but, if surgery hours are partially staggered so that one consulting room accommodates 15 sessions a week, this would be the maximum demand created by 2,500 patients at risk;

(c) similarly, if the surgery hours were completely staggered, one consulting room should cope with 20 sessions a week which would be the maximum demand created by 3,350 patients at risk.

29. By this method of calculating the maximum number of consulting rooms necessary to meet the peak seasonal demands of a potential list size there will be consulting rooms vacant at periods of 'normal' demand when the increase in list size has taken place and during all times until that potential size has been reached. These vacant consulting rooms can be used as extra examination rooms, a point that should be borne in mind when assessing the need for special examination rooms (see paragraph 77).

30. To enable preliminary financial arrangements to be made it will be necessary for the doctors to have some idea of the likely cost of the project. In the case of new buildings, however, no comprehensive schedule of accommodation will have been formulated at this stage and, therefore, the following method of calculating a budget cost for the building may be necessary.

31. The maximum number of consulting rooms necessary should be calculated (see paragraphs 25 to 28) and the approximate gross area of the practice building can then be assessed by multiplying the number of consulting rooms by a figure of between 400 and 600 sq ft. The figure chosen will, of course, depend upon the scale of the project and the provision of such ancillary accommodation as treatment rooms but, generally, the figure will be between 400 and 500 sq ft if the practice has an appointment system, and between 500 and 600 sq ft if no appointment system is envisaged.

32. The likely cost of the building can be considered as the product of this approximate area and a cost per square foot.

33. As this cost budget is derived from the number of consulting rooms and if this number has been calculated from population and demand, approximate costs might be directly related to population.

For example:

(a) if the cost per square foot is £5 and if one consulting room satisfied the demand of 1,670 patients (see paragraph 28a) the cost of the building would be between 30/- and 36/- per patient at risk or between 24/- and 30/- if an appointment system is used (see paragraph 31).

(b) if each consulting room, by 'shift' use, satisfied the demand of 3,350 patients, the cost per patient at risk would be proportionately reduced to between 12/- and 15/-.

34. As well as being a guide to establishing the gross area of the practice building, the number of consulting rooms required will also help to determine the number of car parking spaces needed and thus the total area of the site. The actual number of car parking spaces to be provided will depend upon the requirements of the local authority and that figure will be proportional to the number of persons in the building at one time, although if adequate public car-parks exist nearby, parking provision on the actual site could probably be limited to the staff cars only.

For example: assuming a staff total of 1.5 persons per consulting room and that 66% of patients arrive by car and have to be parked on the site:

(a) if no appointment system is in use, the number of patients in the building is likely to be six for every 1,000 patients at risk. If one consulting room copes with 1,670 patients at risk (see paragraph 28a), 7.5 car parking spaces may be needed for each consulting room provided. The total site area per consulting room, allowing 200 sq ft for each car, would be 2,100 sq ft, 1.25 sq ft per patient at risk.

(b) however, if an appointment system is operated, the number of patients in the building at any one time is likely to be six for every consulting room and, although each consulting room copes with 1,670 patients at risk, 5.5 car parking spaces would be needed and the total area of site required would be reduced to 1,600 sq ft approximately 1.0 sq ft per patient at risk.

(c) similarly, if each consulting room by 'shift' use satisfied the demand created by 3,350 patients at risk, the total area of site per consulting room remains at 1,600 sq ft but the area per patient at risk is reduced to 0.50 sq ft.

35. The method of financing the project must be determined by the doctors' considering any limits or conditions laid down by the sources of finance. Financial aid, other than from commercial sources, is available from the **NHS** through the Executive Councils and consists of improvement grants, loans and the scheme for re-imbursement of rent and rates.

36. The Improvement Grant Scheme provides for a direct grant of one third of the capital cost of improvements or extension to existing practice premises (see ECN 621).

37. The General Practice Finance Corporation may grant a loan of up to 100% of the capital cost of a project, including approved legal and professional fees. The loan, upon which the present rate of interest is 7½% per annum, may be granted for the acquisition or provision of buildings for use as general medical premises, their improvement or repair and the acquisition of land (see ECN 604).

38. In the case of any loan upon which interest will be paid, it would be wise to estimate at an early stage the probable annual payments by the Executive Council under the scheme for the direct re-imbursement of rent and rates (see ECN 669).

39. The changes in the character of a practice that either cause or follow upon the building of new premises will usually mean that a schedule of accommodation or detailed brief derived from existing methods of work is liable to be unsatisfactory and that the following method, using the activity data in Part 2, is preferable.

40. The practicability of the week's timetable (see paragraph 28) should be checked to see whether or not the numbers of sessions required—and the times at which they are held—are reasonable.

41. The most common type of session, the general consulting session, could thus be analysed to establish or confirm the number of patients likely to be involved, the activities required and the sequence in which—and by whom—they are to be done.

42. In this way, a diagram of the g.p. session can be drawn (see diagram 1) and, by assessing the practicability of combining different activities into one space, or their performance by one person, a schedule of accommodation will develop, incorporating the requirements of each item on that schedule.

43. This schedule, however, will not necessarily satisfy the requirements of the less common type of session but, by a comparison of the diagrams of these other sessions (see diagrams 2 and 3) with that of the general consulting session, the practicability of multi-purpose rooms can be assessed. It should be noted that, to ensure the maximum use of rooms, it may be necessary both to adjust the timetable and re-define the responsibilities of the staff.

From these considerations a schedule of accommodation and a detailed room brief can be derived to satisfy all requirements (see diagram 4).

Diagram 1 General consulting session: sequence of activities

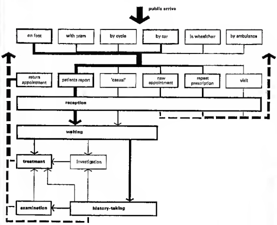


Diagram 2 'Well-baby' clinic session: sequence of activities

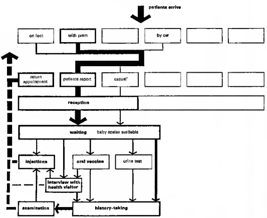


Diagram 3 Ante-natal clinic session: sequence of activities

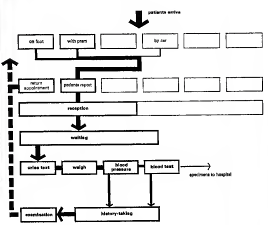
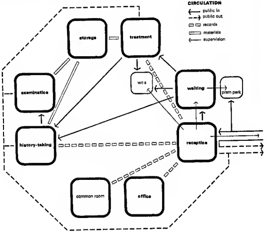


Diagram 4 Typical room relationships



44 This checklist of major decisions and action to be taken during the outline briefing stage covers only those details that are special to general practice premises and is, therefore, intended to supplement the RIBA Handbook of Architectural Practice and Management, Parts 3.512, 3.515, 3.516

(a) *Function:*

potential list size;	consider the effects of any long term plans made by other medical authorities etc (see paragraph 13)
medical function;	consider the effects of co-operation with other medical authorities, e.g. local authority, RHB.
approval;	general approval to the proposal by the Executive Council may be necessary.

(b) *Schedule of Accommodation:*

Assess the level of demand (see paragraph 15)

Assess the number of sessions required per week (see paragraph 25)

Decide on the timetable of use, appointment systems, etc. (see paragraph 25)

Assess the staff required (see paragraph 18)

Calculate the number of consulting rooms required (see paragraph 25)

(c) *Intended expenditure:*

source of finance;	commercial or Government loans and grants
amount of capital;	preliminary assessment of costs (see paragraph 30)
approvals;	Executive Council may have to approve approximate estimates if GPFC loans are involved. Determine amounts repayable under rent and rates re-imbursement scheme.

(d) *Programme:*

location of site;	to be agreed with Executive Council (see ECN 604).
outline scheme;	to be approved by Executive Council if Government loans are involved.

(e) *Statutory approvals:*

Building Regulations, (Part E, purpose group VII).
Offices, Shops & Railways Premises Act, 1963, may apply.

(f) *Site inspection:*

area;	sufficient for predictable expansion, car parking
views onto site;	privacy will be required in medical spaces
noise levels;	may dictate orientation of building
access;	proximity of public transport routes, etc.
parking;	local planning authority's requirements.

DESIGN GUIDE

PART 2

This part of the design guide consists of information about the way the typical* general practice operates and the physical requirements of these typical methods of work.
The information is grouped under the main headings of Arrival, Entry, Reception, Waiting and Medical Accommodation, being the normal sequence in which a patient uses the building. Each heading is then divided into general information about the nature of the group of activities involved, together with general design notes and diagrams where appropriate. In some cases more specific information is given which relates to individual activities.

*although the methods of work and the sequences illustrated are typical, and therefore reflect to some extent a typical 'schedule of accommodation' none of the information in this part of the guide should be accepted by the architect as automatically applying to his particular client, who may well have different organisational techniques.

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45 The public who use a general medical practice building are predominantly the patients of the practice. In these notes, however, a distinction is made between the public who use the building for medical purposes ('patients') and those 'callers' who use the building only to contact the organisation (see paragraph 55).

Arrival

46. The public will arrive at the building by a variety of means, and the predominance of any one method will depend entirely upon the nature of the locality and the type of population served by the practice.

47. Normally the majority of the public will arrive on foot, although this will largely depend upon the geography of the practice.

design note:

(a) Special precautions and facilities may be needed for the aged and infirm 'patients'.

48. The number of 'callers' and 'patients' arriving with a pram will depend upon the age structure of the practice population and the geography of the practice (see paragraph 13). Demand for pram parking facilities will usually be at its highest during morning sessions and at the times at which 'well baby' clinic sessions are to be held.

design notes:

(a) The number of parking spaces to be provided will have to be assessed for the maximum (well-baby clinic) demand, but this is unlikely to exceed, without an appointment system, 3 prams (24 sq ft) for each 1,000 on the list and 'at risk' for that particular session. For example, if two well-baby clinic sessions a week are needed for 20,000 patients, 30 pram spaces would be required as a maximum, although this number could be reduced by the use of an appointment system.

(b) The position of parked prams should be such that they are accessible under cover to and visible from the reception spaces and the waiting area. If this supervision is impracticable 'patients' may bring their babies into the building, which may create a demand for other amenities.

49 Cycle parking facilities will normally be required, but as the demand for these does not usually coincide with the maximum demand for pram parking spaces, these two could be combined.

50. The users of public transport services require no special consideration although the time-tabling of the services, especially in rural areas, will affect the timing of appointment systems and this may affect the size of waiting areas (see paragraph 71).

51. The numbers of 'patients' and 'callers' arriving by car will depend upon the geography of the practice, and its social structure. The numbers may also vary with the times of day.

design note:

(a) As 'off-street' parking for patients may be a condition of outline planning approval it is important to note the reduction in the number of cars that can be achieved by the use of appointment systems and staggered surgery hours (see paragraph 34).

(b) Car parking facilities for the public should be separated from staff car parks, the provision for which may also be reduced by staggered surgery hours (see paragraph 34).

52. The number of 'patients' arriving by wheelchair will depend upon the scale of provision of other amenities for the disabled in the neighbourhood and upon the practice policy of encouraging such people to come to the doctor (see paragraph 53).

design note:

(a) Whilst wheelchair access and amenities* should ideally be provided in all the spaces used by 'patients', this provision may be limited to a few rooms if any member of the medical staff can use one of these fewer rooms to see his wheelchair patients. *(See Goldsmith, S 'Designing for the Disabled', RIBA 1963)

53 'Patients' may arrive by 'ambulance' as, in some areas and with the increasing sophistication of general practice, it may be more economical for the practice to fetch chronically ill patients to the surgery than for the medical staff to visit them. The feasibility of this policy will depend upon local conditions, but where such methods are proposed the effects upon the potential size of the practice should be considered (see paragraph 12).

Entry

54. The public entrance to the building may need to be identifiable from some distance. Separate public and staff entrances may be desirable in some cases, the 'staff' entrance being used as the exit by distressed patients after having seen the doctors. This need for a private staff entrance, however, was only relevant to the traditional type of plan (see paragraphs 69 and 73) in which the public entered the waiting room directly from the exterior and where, if this was the only entrance into the building, the doctors had to encounter their waiting patients when entering or leaving the premises during surgery hours.

design note:

(a) External professional nameplates (see BMA Handbook, Medical Ethics, which also gives rules about location of entrances generally)

(b) Notices giving surgery hours, names of doctors on duty, out of surgery hours telephone numbers, chemists' late night rota etc, all of which should be visible from the exterior of the building.

(c) Hatch or other means of delivery to the building when unmanned as some 'callers' may need to deliver samples etc, out of surgery hours.

(d) Draught lobby.

(e) The public WCs may open off this space provided that adequate supervision can be arranged.

Reception: General

55 The function of the reception area and staff can be divided into two main groups of activities, dealing with the requests of 'callers' (see paragraphs 57 to 64) and handling the arrival of 'patients' (see paragraphs 65 to 70). These two groups of people and the activities they create are distinctly different, and can be separated at the reception area. 'Patients' will use the building only when there is a session in being but 'callers' are likely to contact the administrative or reception staff at any time during the day. 'Patients' will use the waiting and medical rooms of the building whilst 'callers' usually leave the building immediately after having their requests answered. 'Patients' generate only one or at most two activities at the reception desk (see paragraphs 65 and 67), whilst 'callers' will make at least three different types of request to the reception staff. The number of reception staff required, and therefore the size of the reception space, to deal with all these different types of activity will depend largely upon the size of the practice population. It is essential, however, that the

reception counter is able to accommodate the staff required for the periods or days of maximum demand (usually Monday morning), which can only be assessed by the past experience of the varying frequencies of different types of request, and the organisational policies of the practice, for example the restriction upon requests for repeat prescriptions to certain hours of the day.

design note:

(a) Generally the reception counter should always be in a position that overlooks the public's entry into and exit from the building. This is extremely important if the practice is to operate an appointment system. In this case the reception staff must be able to note the arrival of 'patients' before allowing them into the waiting areas (see paragraph 65) and possibly before attending to the callers. In addition 'patients' may forget to book 'return' appointments (see paragraph 67) and the reception staff may have to check with the 'patient' before he leaves the building. The receptionist who is noting the arrival of 'patients' should be in visual and verbal contact with the waiting room (see paragraph 66).

(b) In contrast to (a) if the practice does not intend to run an appointment system none of the above criteria may apply, and the position of the reception counter is more likely to be dictated by the receptionists' need for rapid access to the filing system and delivery of records to the doctors (see paragraph 69).

Reception of 'Callers'

56. 'Callers' will contact the reception and administrative staff of the practice, both in person and by telephone, to request repeat prescriptions and visits, and, if the practice is to run an appointment system, 'new' appointments.

57. On receiving a personal request for a repeat prescription the receptionist notes the full name and address, possibly the age, the doctor of the patient and the general nature of the prescription required. Later the patient's record is extracted from the filing system and delivered, with the note, to the appropriate doctor. Alternatively the receptionist may herself undertake the filling-in of the prescription form (EC10) which is later checked and signed by the doctor. In this case the receptionist would need to identify the drug required, and therefore would require immediate access to the filing system to check the previous prescription on the patient's record. If, however, the doctor prescribes 'NP' (nomen proprium) the 'caller' can bring the empty container (bearing the precise description of the medicament) to the receptionist who therefore does not need immediate access to the filing system, the record and prescription being later delivered to the appropriate doctor for checking and signature.

design note:

(a) If EC10 pads are used by the receptionist, they must be out of reach of the public.

(b) Dependent upon the organisational policy, the record filing system may need to be easily accessible by the receptionist.

(c) If the receptionist has to identify the nature of the drug required by direct questioning of the 'caller', conversational privacy may be necessary.

(d) If the 'caller' is asked to wait for the doctor's signature this should be taken into account when assessing the number of seats in the waiting room or the need for occasional seats in the reception area.

58. The procedure for dealing with a telephoned request for a repeat prescription is generally as in paragraph 57. However, if the majority of requests is by telephone they could be dealt with separately by the administrative staff and not at the reception counter, the administrative staff being responsible for the extraction of all records, whether prompted by telephonic or personal contacts.

design note:

(a) as 57 (a) (b) (d).

(b) Extension to GPO switchboard.

59. 'Callers' will collect the completed prescription forms from the reception staff during the day, and may require to do so when no session is in being.

design note:

(a) An alphabetically divided prescription board or rack will be needed by the receptionist, but this should not be in a position where it can be reached by the public.

60. On receiving a personal request for a visit to be paid to a patient's home the receptionist notes the full name and address of the patient, and possibly the general nature of the illness, although this may involve the 'caller' in divulging private information about the patient. Later the patient's record is extracted from the filing system for collection by the doctor before leaving the building.

design note:

(a) Conversational privacy at the reception desk may be necessary.

61. Telephoned requests for visits will normally be far more common than 'over the counter' requests, and although being dealt with in the same way (see paragraph 60) they could be the responsibility of the administrative staff not on the reception counter. In some areas an itinerary of visits may have to be organised by the administrative staff, not only to economise on the doctor's travelling but also to enable some contact to be maintained with a doctor on his rounds in case of urgent messages.

design note:

(a) Extension to GPO switchboard.

(b) Radio-telephone contact between surgery and the doctor's car may be needed in some areas.

(c) A street plan or map of the area covered by the practice.

(d) Access to the filing system will be required.

The following paragraphs (62 to 66) apply only to practices that are to run an appointment system

62. A 'caller' needing an appointment for a 'new episode of illness' usually requests the first available booking for his doctor. The receptionist checks the appointment sheets for the next few sessions, confirms the date and time with the 'caller', entering the patient's full name and in some cases his address in the column for the appropriate doctor.

design note:

(a) Only the appointment sheets for the next few sessions are needed by the receptionist for this activity (see paragraph 67)

(b) If the request is for a booking at a special 'clinic' session, e.g. ante-natal, it may convey private information to other members of the public, and conversational privacy may be needed.

63. Telephoned requests for new appointments will be more common, but in contrast to paragraphs 58 and 61, this type of request will have to be handled in the same way and by the same receptionist as personal requests (paragraph 62) because the duplication of an appointment sheet is normally impracticable.

design note:

(a) Extension to GPO switchboard.

64. A 'caller' will often request to see a doctor at the session in being and without having made a prior appointment. This type of 'casual' request will be frequent in a practice which has just started to run an appointment system, and where patients are not fully conversant with the system. It is important, therefore, that, if at all possible, the practice should start to run its appointment system before commissioning new building works, so that the eventual extra load on the waiting room can be reasonably predicted. On receiving a request for a 'casual' consultation the receptionist informs the doctor who decides whether or not the request is acceptable, and if not the 'caller' will be asked to make a 'new' appointment (see paragraph 62). If, however, the 'caller's' request is accepted, his full name and address are added to the appointment sheet for the present session (see paragraph 65) and he is directed to the

waiting area, becoming, in these notes, a 'patient'. His record is then extracted from the filing system and delivered to the appropriate doctor.

design note:

(a) Intercommunication between the receptionist and the consulting rooms and treatment room.

(b) The appointment sheet for the session in being.

(c) Access to the filing system.

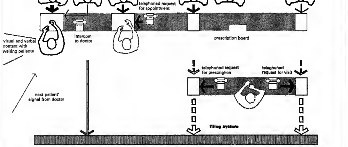
Reception of 'Patients'

(Practices with an appointment system)

The following paragraphs (65 to 68) refer to the reception activities caused by patients in a practice that is run on an appointment system. Paragraphs 69 to 70 refer only to practices that do not intend to operate the system.

65. Before a session begins the records of all the expected 'patients' will have been extracted from the filing system, sorted, and delivered to the appropriate medical rooms (see paragraph 69), and as each record is extracted, this is noted against the name of the 'patient' on the appointment sheet (see diagram 5).
The 'patient' reports to the receptionist who notes his arrival against his name on the appointment sheet. This act is essential if this receptionist is also responsible for calling 'patients' from the waiting room into the consulting rooms (see paragraph 66) and indicates that the receptionist should be encountered before the entrance to the waiting room, into which the patient is directed after having reported.

Diagram 5 Activities at reception desk: practices with appointment system


patients report
'casual'
return and new appointments
repeat prescription
collect prescription
visit
telephoned request for appointment
visual and verbal contact with waiting patients
intercom to doctor
prescription board
telephoned request for prescription
telephoned request for visit
next patient' signal from doctor
filing system
record delivered to doctor immediately
record and prescription delivered to doctor for signature
record awaits collection by doctor

design note:

(a) Receptionist between the public entrance to the building and the entrance to the waiting room.

(b) The appointment sheet for the session in being.

66. The receptionist who is in charge of the reporting of 'patients' may also be called upon to regulate the flow of patients from the waiting room into the consulting rooms. Although ideally the doctors ought to be able to do this by having the records of the patients in the sequence in which they are expected, and by broadcasting their next 'patient's' name to the waiting room, the expected sequence will not always tally with the order of arrival of 'patients'. However, if the receptionist has a record of which 'patients' have arrived (see paragraph 65) a simple signal from the doctor to the receptionist will enable her to send in the next available 'patient'. To do this she must be able to communicate verbally with the waiting room and also to see that the patient has responded to her message. Upon seeing the patient leave the waiting room she can then note this on the appointment sheet, facilitating the selection of the next 'patient' by comparison of this note with those made for arrival (see paragraph 65).

design note:

(a) System of signals from, and identifiable as referring to, each consulting room and treatment room

(b) Verbal contact with the waiting room, which may be either directly through a hatch, over a counter, or indirectly over a loudspeaker system.

(c) Visual contact with the waiting room which may be either direct as in (b) or merely, where no other supervision of the waiting room is necessary, vision over the 'patients' exit from the waiting room.

(d) Appointment sheet for the session in being

67. After having been seen by the medical staff, some 'patients' may be asked to book a 'return' appointment at the reception counter. This activity will be most frequent during clinic sessions when almost all 'patients' will have a continuing series of appointments, but in general practice sessions the frequency will vary depending upon the type of patient, and the doctor's individual methods of work. Because many patients (especially the aged) may forget to make this request it is essential that all 'patients' make their exit from the building past the receptionist

The 'patient' requests a booking after the interval specified by the doctor, for example, 'a week today'. As it is more usual for the 'return' appointment to be made for the future, a different set of appointment sheets from those used for 'new' bookings are needed.

design note:

(a) Receptionist between consulting rooms and the public exit from the building.

(b) The appointment sheets for the sessions after those required for 'new' appointments (see paragraph 62).

(c) Intercommunication between consulting rooms and the receptionist may be necessary.

68. From the preceding paragraphs (62 to 67) it can be seen that the duties that were traditionally assigned to the 'receptionist', i.e. answering all requests whether by telephone or by personal contact, might, in the larger practices, be re-organised in the following way: all over-the-counter requests, and the telephoned requests for 'new' appointments, could be separated from all other telephoned requests which would be the responsibility of the office staff. As the majority of requests for visits and for repeat prescriptions may be by telephone, and are those calling for the frequent use of the filing system, the traditional position of this, i.e. with the receptionists, is largely irrelevant. This broad division may of course be refined even more in the very large practices or health centres by dividing the reception duties into separate tasks for each member of the reception staff. In this way the booking of 'new' and 'return' appointments could be physically separated from the reporting of 'patients' which might then take place at the waiting area rather than at the central reception space, thus allowing several waiting rooms, which may be architecturally essential due to site restrictions etc, to be planned, each having its own receptionist dealing only with the arrival of 'patients'.

Reception of 'Patients'

(Practices without an appointment system)

69. When a 'patient' reports to the receptionist in a practice that does not operate an appointment system, the activities involved are distinctly different from those in the preceding paragraphs (65 to 67) and comparison with them should be drawn if the doctors ask their architect to plan a compromise solution (see diagram 6). As the administrative staff has no prior knowledge of the identity of the 'patients' likely to attend a session, records will have to be continually extracted from the filing system and delivered to the doctor as the 'patients' report. As the times of arrival of 'patients' are unpredictable, but may coincide with the start of the session in order to obtain places in the queue, the pressure of work on the receptionists may mean that 'patients' and 'callers' will have to wait before making contact with the receptionist, and in this case the waiting area may be better placed between the entrance and the reception counter.

The 'patient' reports to the receptionist, who extracts his record immediately, directs the 'patient' to the waiting area, and delivers the record to the doctor. Alternatively, the receptionist may note the name of the patient (see paragraph 70) extracting and delivering the record later.

design note

(a) The reception counter may need to be between waiting room and consulting rooms (see paragraph 65a).

(b) The filing system will be an integral part of the reception area (see paragraph 68) and must be easily accessible from the consulting and treatment rooms

(c) As there is no appointment system 'patients' do not need to leave the building by re-passing the reception counter (see paragraph 67a), and theoretically could leave the building immediately after their consultation.

70. Without an appointment system the receptionist may undertake the regulation of the flow of 'patients' into the consulting rooms by recording and calling the names of 'patients' in the order in which they report (see paragraph 69) and the design implications are identical to those in paragraph 66. Alternatively, and more usually, the doctors call their 'patients' from the waiting room by signalling 'next please' leaving the 'patients' themselves to remember the order of their arrival, which may alternatively be recorded by a numbered disc handed to the patient by the receptionist or by a numbered ticket obtained from a dispenser.

design note

(a) Either as paragraph 66 (a) (b) (c)

(b) Numbered discs or numbered ticket dispenser and indicator, controlled by the doctor

Waiting

71. Generally only 'patients' and their relatives need to wait for any length of time, and this would normally be the only activity to be accommodated in the waiting room. However, if the practice is to run special clinic sessions the waiting room may also fulfil other uses during these times, for example, weighing babies, and at other times may be used for group therapy and social functions.

design notes:

(a) For its prior function of accommodating waiting 'patients' its position is dictated by many considerations, chief among which are the relationship with the reception counter or desk, and therefore the entrance to the building (see paragraphs 65 and 69), the need for waiting 'patients' to keep an eye on their prams (see paragraph 47); and the need for circulation space between the consulting rooms and the entrances to the building to be independent of the waiting room (see paragraph 53)

(b) The size of the waiting area is of course related to the maximum number of 'patients' that will have to be accommodated, (see paragraphs 72 and 73) and this number will be dictated either by the demand for general consulting sessions or the demand for special clinic sessions, and the policy of operating an appointment system for either or both types of session

(c) A restful, non-institutional, environment should be maintained as this tends to reduce the patients' anxiety which might be a barrier to good history-taking. Informal seating arrangements and a pleasant view may be considered although patients tend to seat themselves in positions where they can watch the receptionist or patient-call indicator

Lighting should be adequate for reading but a higher level of illumination is unnecessary.

Adequate warmth, 60–65F, is essential and special precautions should be taken against draughts

72. (d) The number of 'patients' (including relatives) to be accommodated in the waiting room of a practice using an appointment system is dependent upon the number of medical staff who can work at the same time, and it is important to note that this should be taken into account when deciding upon the number of consulting rooms to be provided (see paragraph 25). The total number of seats required can be assessed by the 'rule of thumb' of 5, 6 or 7 seats to each consulting room and treatment room (see ECN 604 Appendix B). These figures are comparable with the more detailed way of calculating the actual maximum need for waiting room provision, which is done by assessing the average length of a consultation, and the maximum delay between a 'patient' entering the waiting room and being called to the doctor, which may be affected by the timing of public transport services. This calculation should give the number of seats required for 'patients' waiting to see each member of the medical staff, to which an allowance should be made for relatives.

For example: if the rate of working is 10 consultations per hour, and if the average waiting period is say 25 minutes, and if, on average, every other 'patient' is accompanied by a relative, the maximum number of seats required is six (10x0.4x1.5) for each consulting and treatment room in the schedule of accommodation.

(e) The net area allowance per seat can be assumed to be a minimum of 10 sq ft

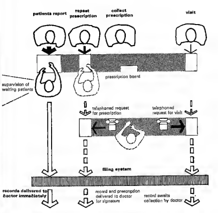
(f) The position of the waiting room has primarily to be considered in relation to the reception activity of calling 'patients' from this area to the consulting rooms (see paragraph 66). Because 'patients' should not have to wait before seeing the receptionist, the waiting room need not be a part of the circulation pattern, which therefore would allow 'patients' to leave the consulting rooms and reapproach the reception desk or entrance without meeting the waiting 'patients' This may be especially important in the case of distressed 'patients' (see paragraph 54).

(g) If the receptionist is to control, from the central reception desk, the patient-call activity (see paragraph 67) waiting should be centralised into one space. If this is impracticable, adjustments will have to be made to the organisation of reception work (see paragraph 68). If the receptionist does not control the patient-call activity, an indicator, e.g. coloured lights, buzzer or numbered indicator (see paragraph 70) will be required.

73. (h) The number of waiting patients (including relatives) to be accommodated in a practice that does not run an appointment system is not related to the number of consulting rooms provided (see paragraph 72) but to the size of the population 'at risk'. For urban practices the provision of seats can be assumed to be one for every 200 patients 'at risk' and in most rural practices the figure may be as low as one seat for every 300 patients 'at risk' (see ECN 604). This means that the waiting room for a practice without an appointments system is approximately four times the area of the waiting room for a similar practice that, by staggering its surgery hours, makes full use of its consulting rooms (see paragraph 28)

(i) For area allowance see paragraph 72 (d).

Diagram 8 Activities at reception desk: practices with no appointment system


patients report
repeat prescription
collect prescription
visit
prescription board
supervision of waiting patients
telephoned request for prescription
telephoned request for visit
filing system
records delivered to doctor immediately
record and prescription delivered to doctor for signature
record awaits collection by doctor

(j) The position of the waiting room has to be considered in relation to the entrance and the reception counter (see paragraph 69a).

(k) A 'next please' signalling system from each consulting and treatment room may be required or alternatively this may be performed in the same way as in paragraph 66.

Medical Accommodation

74. The medical accommodation in a general practice building has to fulfil the requirements of four basic types of procedure: history-taking or private interview between the patient and doctor; the examination of the patient by the doctor; the investigation of specimens and measurement of the patient; and 'treatment' routines, which can vary in complexity from the simple injection up to minor surgery. Traditionally all these have been performed by the doctor alone and in his consulting room, but the employment of ancillary medical staff has, to some extent, divided the diagnostic procedures performed by a doctor from the simple diagnostic and therapeutic procedures that can be delegated to other staff. This separation is reflected in the increasingly common provision of 'treatment' rooms (see paragraphs 79 to 83).

The following paragraphs (75 to 83) are divided into the main groups of activities (history-taking and seated examination; couch examinations, investigations and treatments) and are therefore in the sequence in which a patient, needing all four procedures, would normally encounter them. It is important to note, however, that this sequence does not necessarily apply to special clinic sessions in which investigation of the patient by ancillary staff may precede examination by and interview with the doctor (see paragraph 80). Similarly the demand upon these procedures will differ according to the type of session. In a general consulting session only a few patients may need to be examined or treated, whilst during a clinic session the majority of patients may need investigation, examination, or treatment.

75. The two activities of history-taking and examination are usually accommodated together in the consulting room. Extra examination rooms are sometimes required (see paragraph 77), although if the method of calculating the number of consulting rooms has taken into account future demands, this need for extra examination facilities may be met by the use of vacant consulting rooms (see paragraph 29). In this note the consulting room is treated in two separate paragraphs, 76 referring to history-taking and seated examination, and 78 referring to examination on a couch in either a consulting room or separate examination room. These paragraphs are supplemented by diagrams.

76. The 'patient', possibly accompanied by a relative, is called from the waiting room (see paragraphs 66 and 70). The 'patient' enters the consulting room and sits at the doctor's desk. The interview that follows may be highly confidential requiring absolute privacy, and during the interview the doctor may need to examine the seated 'patient' (for full range of activities see diagram 10).

design note:

(a) The method of calculating the number of consulting rooms required in a practice has already been given (see paragraphs 26 to 29).

(b) Their position in the plan will be of major importance only if the practice does not run an appointment system (see paragraph 69), but other factors may be of some consequence. Consulting rooms should be located as far away from noisy areas as possible, e.g. waiting rooms, car parks etc., and with easy access to other medical rooms, e.g. treatment rooms.

(c) The size of consulting rooms, for both history-taking and couch examinations should be no less than 120

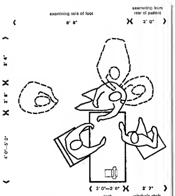


Diagram 7 History-taking and examination of a seated patient: typical layout

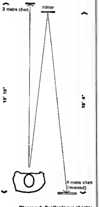


Diagram 8 Snellen's eye charts: alternative arrangements

sq ft but this will depend upon the furniture layout and equipment needed in the history-taking area, the basic details of which are shown in diagram 7 and listed below in (e).

(d) Complete aural and visual privacy is essential, partitions separating the history-taking from any other activity should give an overall sound reduction of at least 45 decibels, and windows should be positioned or glazed so as to maintain privacy from the exterior.

The direction of natural light should preferably be onto the patient's face and general artificial light sources, giving 25 lumens per sq ft, should give correct colour rendering of the patient's complexion. An adjustable light source, (e.g. desk-lamp) may be required in addition and may have to act as a bulls-eye lantern for use with a head-mirror.

A room temperature of 65 to 70F will be required.

(e) Individual requirements and methods of work will obviously affect the choice of furniture and equipment but the following may be useful in establishing the precise needs: wash basin, possibly with wrist action taps and with adjacent working top; soap dispenser; paper towel dispenser, mirror; coat hooks, telephone-intercom; patient-call system; clock, possibly with sweep second hand; socket outlets, desk; bookcase, doctor's swivel chair, patients' chairs; waste-paper or disposal bins; desk-lamp, eye chart (see diagram 8).

77. In some cases, however, the doctor may need to examine the undressed patient on a couch. In a general consulting session this may apply only to some 20% of the 'patients' attending, although of course this figure is subject to wide variation, and the proportion of these who take so long to undress as seriously to delay the doctor depends mainly upon the age of the 'patients'. In a clinic session, however, especially ante-natal sessions, the frequency may be far higher (see diagram 9).

The couch examination may take place either in the consulting room, or in a separate examination room which may be either shared between two or more doctors or provided for each consulting room. In any case it is extremely unlikely that the provision of examination couches needs to exceed, for general practice or special clinic purposes, two couches to each doctor, which maximum provision can be met in three ways:

design note:

(a) Two consulting rooms to each doctor, one being his own and the other being a temporarily vacant one used for his examination purposes (see paragraph 29).

(b) One consulting room and a separate examination room.

(c) One room exclusively for history-taking and two separate examination rooms.

In practice, however, this scale of provision may well be uneconomic if the proportion of patients needing to use the separate examination facilities is low (see paragraph 78), and the optimum provision may be three couches to two doctors, which provision can be met similarly in three ways:

(d) A suite of three consulting rooms, only two being in use at a time for history-taking and examination, the third being temporarily vacant and shared by the two doctors for examination purposes. If the number of consulting rooms has been calculated with future needs in mind (see paragraph 29) special examination rooms may not be necessary.

(e) Two consulting rooms sharing a separate examination room.

(f) Two rooms exclusively for history-taking each with its own examination room but sharing a third examination room.

78. If the doctor requires to examine the 'patient' on the couch in the consulting room, the 'patient' leaves the history-taking space, enters the couch examination area and undresses behind a screen whilst the doctor waits. The 'patient' is then examined, the doctor rinsing his hands and returning to the history taking area whilst the 'patient' dresses.

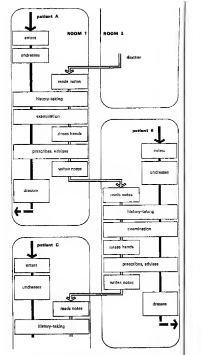


Diagram 9 History-taking and examination: sequence of activities when a doctor uses two rooms alternately, e.g. Ante-natal clinic session

However, if the doctor requires to examine the patient on the couch in a separate examination room, the 'patient' undresses in that room and usually waits whilst the doctor calls in the next patient, interviews him and possibly examines him. The doctor then, after finishing with his next patient, enters the examination room, examines the first patient, and may finish the consultation in the examination room, leaving the patient free to dress at leisure and make his own exit without having to re-enter the consulting room (see diagram 10). Alternatively, the doctor may leave the patient directly after the examination on the couch, asking the patient to re-enter the consulting room after dressing.

Wherever the couch examination is performed, and whatever the method used, the facilities required are similar and a basic layout is shown in diagram **11**.

design note.

(a) The number of extra couch examination facilities has already been discussed (see paragraph 77), but in assessing this number it may also be necessary to take into account any occasional demands made by the treatment room for the use of other couches, to enable, in an emergency, more than one patient to be dealt with at the same time.

(b) The position of extra examination rooms will be automatically dictated by the need for easy access between them and the associated consulting rooms. However, if the method of use implies that a patient is being interviewed in the consulting room when the adjacent examination room is occupied intercommunicating doors directly linking the two rooms should not be provided (see paragraph 76) and the partitions should be capable of providing overall sound reduction of 45 decibels as a minimum. Examination rooms may be internal as there is usually little need for natural light, although this may result in artificial ventilation being required

(c) The size of separate examination rooms should be a minimum of 50 sq ft.

(d) Complete aural and visual privacy is essential for separate examination rooms. In consulting rooms both the activities of undressing and examination should be screened from other occupants of the room (e.g relatives).

Natural light should preferably fall onto the patient's body from the foot end of the couch, although the provision of natural light is not essential. General artificial light sources that give correct colour rendering of the patient's skin may be required and should give a level of illumination of at least 25 lumens per sq ft at working level. An adjustable light source over the couch is also usual and may need to be used as a bull's-eye lantern. A room temperature of 75F should be provided, although a local source of heat over the couch may be used in a consulting room. Artificial ventilation giving 6 air changes per hour may be required.

(e) Although a comprehensive list of furniture and equipment is not possible the following may have to be accommodated:

wash basin as in paragraph 76 for separate examination rooms; curtains or other screening around the couch in consulting rooms, 13 amp socket outlets at the foot of the couch; adjustable examination lamp, usually wall mounted; shelf or writing flap; paper couch cover dispenser; height measure; weighing machine; couch; disposal bins; chairs; 'engaged' signal if the examination space is shared between doctors (see paragraph 77).

79 The following paragraphs (80 to 83) refer to the diagnostic and therapeutic procedures, traditionally done in the consulting room by the doctor, that may be wholly or partially delegated to nurses or other ancillary medical workers. The clinical activities that can be centralised in this way fall into two main functions: the physical treatment of a patient by the nurse, or the doctor, or both, and the investigation of specimens and the patient. Because the performance of these activities involves the use of greater amounts of materials, instruments and equipment, than the history-taking and

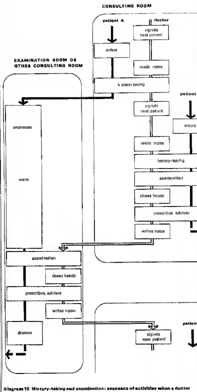


Diagram 10 History-taking and examination: sequence of activities when a doctor requires the use of an extra room

examination activities the treatment room centralises the functions of storage and sterilisation for the whole practice building.

design note:

(a) Generally the number of treatment rooms required by a practice will depend upon the number of nurses likely to be working at the same time, but at present only the very large groups or health centres would require more than one. However, the number of nurses needed depends upon the type of work that they are capable of having delegated to them and the demand made by the practice population for these procedures (see paragraph 20). It may be that the functions of the treatment room could be subdivided in some cases by physically separating the purely clinical treatment room from the laboratory, storage and sterilisation functions.

(b) The position of treatment rooms in the practice building can be considered in precisely the same way as the consulting rooms. However, if the practice is to run special clinic sessions it is likely that the treatment room will be used by, for example, midwives and health visitors performing routine investigations on patients before they consult the doctor (see diagrams 2 and 3) and in these cases the relative positions of waiting room, treatment room and consulting rooms may be dictated by this sequence of clinic activities.

(c) The furniture, equipment and layout of the treatment room will depend upon the range of activities that are to be accommodated (see paragraphs 80 to 83) and as this range will vary so widely between practices no comprehensive design note, related to specific activities, is possible, but diagrams and the following list (f) are included which may be helpful as a basis for the determination of individual needs.

(d) The size of the treatment room will obviously depend upon (c) and the amount of storage required to serve the potential demand of the whole practice. However, some indication of the minimum area required can be gained by considering the space needed around the couch, which if accessible on three, and occasionally four, sides would alone demand an area of 100 sq ft (see diagram 12).

(e) Aural and visual privacy are essential (see paragraphs 76 and 78).

General light sources that give correct colour rendering may be needed, but the level of illumination should be higher than that required in consulting or examination rooms. An adjustable light source is usually required in addition and this may have to be either ceiling mounted or on a pedestal as access to the couch may be from all four sides.

A room temperature of 70 to 75F and at least 6 air changes per hour may be needed, especially if sterilisation methods produce steam.

(f) The following basic list of furniture and equipment is included for guidance:

flat bottomed sink with drainer, washbasin or scrub-up bowl, possibly with wrist-action taps; soap dispenser; Phisohex dispenser; telephone and intercom, patient-call system; 'engaged' signal; curtain or screen around couch; worktops and writing space; socket outlets; examination lamps; clock, possibly with sweep second hand; DDA cupboard; fridge; paper towel and couch cover dispensers; disposal bins; couch; dressing trolleys; weighing machine; baby scales; sterilisers; autoclaves.

(g) The number and type of instruments, and materials, whether disposable or permanent will of course determine the amount and type of storage to be provided, and it is essential that the potential size of the practice be borne in mind when this is assessed.

80. The diagnostic routines that can be delegated to a nurse, and which may therefore have to be accommodated in a treatment room are of two types: the collection and investigation of specimens, and the investigation of the patient himself by mechanical methods that produce a measurement which is later interpreted by the doctor. Both of these types of inves-

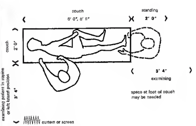


Diagram 11 Examination on a couch: typical layout.
NB this layout should not be 'handed'

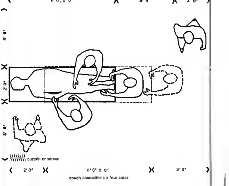


Diagram 12: Treatment on a couch

tigation may be required by patients attending a general consulting session, but during clinic sessions both types are likely to be an integral part of the sequence, and may be performed by nurses or other ancillary medical workers, for instance midwives taking blood pressures, testing urine specimens and taking and testing samples of blood.

81. The investigation of specimens for which facilities will be required fall into two main groups, those involving the taking and testing of the specimens in the practice building, and those involving only the taking of specimens which are stored and later delivered to a pathology laboratory for testing

(a) Specimens which are taken and tested in the practice building include blood which is tested for haemoglobin, erythrocyte sedimentation rate and sugar; urine which is tested for sugar, albumen, acetone, blood, specific gravity, phenylketonuria and bile; stools which may be tested for blood and threadworm.

(b) Specimens for which only taking and storage facilities are required include blood, urine, stools, sputum, swabs and cervical smears.

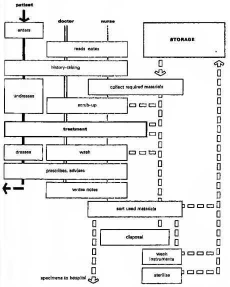
82. The investigations performed on a patient by a nurse may include the use of such instruments as electrocardiogram, respiratory function apparatus, tonometer and audiometer.

83. The range of treatment routines which may be performed on a patient in a general practice treatment room is relatively large, and each type of treatment makes its own special demands upon the equipping, layout and furnishing of the rooms. The most common procedures would be, for example, injections, immunisations and vaccinations, ear syringing and removing sutures, all of which could be performed by a nurse on her own. However, because the facilities of a central treatment room make possible the slightly more complicated treatments, which can only be performed by a doctor with nursing assistance, the treatment room may have to accommodate all the following activities:

(a) Treatments performed by a nurse on her own, usually at the request of the doctor and during a normal session: intra-dermal, intra-muscular and subcutaneous injections; plaster back slabs; bandaging sprains; syringing ears; removing sutures; removing foreign bodies from the eye; changing dressings etc.

(b) Treatments performed by a doctor and perhaps a nurse, some of which may require taking sterile precautions, or the 'no touch' technique and which may be performed at special periods on the timetable, or during a normal session: aural toilet, stitching superficial lacerations, removing benign skin tumours, aspiration of superficial bursae, tapping hydroceles, draining boils and abscesses, draining sub-ungual haematomas, removing splinters, removal of finger or toenails, cauterisation of the nose and cervix, treatment of nosebleeds, treatment of burns, changing pessaries etc.

Diagram 13 Treatment: typical sequence of activities



Administrative Accommodation

84. The secretarial and administrative activities of a general practice could, especially in the larger practices, be considered separately from the reception duties, although in smaller practices and at times when no session is in being one person may have to deal with both secretarial work and the reception of 'callers', in which case the office space and the reception desk would have to be adjacent to one another, possibly separated only by the record filing system, which would then be immediately accessible to both.

design note:

(a) The size of the secretarial office will be dictated by the maximum number of staff necessary at any one time to deal with the work created by the potential list size (see paragraph 13) and the cube (400 cubic ft) required under the Offices, Shops and Railways Premises Act 1963 for each person.

(b) The position of the office should be such that the record filing system and the reception desk are easily accessible. The nature of work done in the office, especially over the telephone, will usually mean that conversations in the office must not be overheard by the public.

85. The record filing system will make extra demands on the space required for either the reception activities or the secretarial activities and the space required can vary, depending on the type of storage system envisaged, between 7.5 sq ft and 3.2 sq ft for each 1,000 patients on the potential list. The record of a patient is kept on a medical record envelope, EC5 or 5B (male) or EC6 or 6B (female) and upon 'continuation cards' EC7 (male) or EC8 (female) which fit into the envelope. The usual filing classification is by surname, and therefore the format of the envelope must be borne in mind when a filing system is being designed. The amount of storage required for records will depend upon their average bulk, which is usually quoted as being in the region of ten to the inch, and this is the figure upon which the area allowances in the accompanying diagrams are based. It must be noted that records are increasing in bulk with time, and the calculation of storage should assume an annual increase in bulk of 5%, although this increase will cease in a few years.

86. Filing of records is commonly of two basic types. The most usual is open access filing, in which each record is immediately available to an unlimited number of persons, and is therefore perhaps most appropriate if the practice does not run an appointment system in which case rapid extraction of records is desirable, although the space required for those methods is greater than that required for the drawer type of filing (see paragraph 89).

design note:

(a) Shelf filing of EC5 and 6 (England, Wales and N. Ireland) can provide 60 inches of filing per foot run with the preferred range of 5 shelves. Thus the total capacity is 600 records per foot run, and the total area, including working space, that should be allowed for each 1,000 on the potential list size is 4.2 sq ft.

(b) In some health centres, 'family folders' are used on the principle that every patient of the same surname, living at the same address, has his records stored in one quarto-sized folder. Because of the depth of the folder, the area allowance for a preferred range of 5 shelves (comparable with (a)) can be reduced to 4.0 sq ft per 1,000 on the potential list size.

(c) Open tray filing of the EC5 and 6 demands an area allowance of 7.4 sq ft, including access and working space, for each 1,000 on the potential list size, but this can be reduced to 5.1 sq ft per 1,000 if an upper level tray can be incorporated.

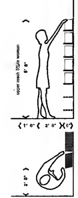


Diagram 14 Record filing: open shelving

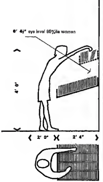


Diagram 15 Record filing: open tray

87. The other method of filing the EC5 and 6 is in drawers. This method may only be applicable if the practice runs an appointment system and consequently records do not need to be rapidly and continually extracted. Two examples are given below, although it should be noted that the area allowances quoted are for comparison only with the open access systems.
design note:
(a) The Amerson cabinet (457 range) provides 93 inches of filing in each drawer, and the total capacity of the 4 drawer cabinet, comparable with the 5 shelf units in paragraph 86 (a) and (b) is capable of holding 3,720 records. The comparable total area allowance for each 1,000 patients potentially at risk is therefore 3.9 sq ft. If the 6 drawer cabinet is used, however, this allowance may be reduced to 3.2 sq ft for each 1,000 patients.
(b) The Roneo-Vickers cabinet provides 69 inches of filing in each drawer and the total capacity of the 4 drawer cabinet requires an area allowance of 4.5 sq ft per 1,000 on the potential list. If the 5 drawer cabinet is used, however, this allowance may be reduced to 3.8 sq ft for each 1,000 patients.

Other Accommodation

88. Common rooms.
design note:
(a) The provision of common rooms for doctors and other medical workers may be necessary if staggered surgery hours are envisaged, and under these circumstances the common room may be used for the clerical work necessary at the end of a session, for example completing repeat prescriptions, interviewing representatives etc
(b) The position of a common room is likely to be dictated by the need for easy access and delivery of records from the secretarial accommodation.
(c) The size of a common room should take into account the need for all members of the medical staff to meet at the same time.
89. Sanitary facilities:
design note:
(a) The minimum number of WCs required in a general practice building is likely to be dictated by the provisions of the Offices, Shops and Railways Premises Act 1963.
(b) The position of WCs that are to be available to patients may be dictated by the need for easy access from the waiting room, and, because in many cases patients will be asked to provide urine specimens, the treatment or consulting rooms.
90. A cleaner's store, containing a sink should be provided.

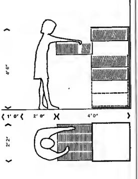


Diagram 16 Record filing: Amerson 457 cabinet

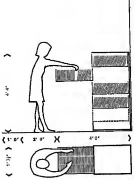


Diagram 17 Record filing: Roneo-Vickers cabinet

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Printed in England for
Her Majesty's Stationery Office
by
James Townsend & Sons Ltd, Exeter
Dd. 136474 K24 11/67